

PROCEEDINGS OF LEARNED SOCIETIES.

ZOOLOGICAL SOCIETY.

November 24, 1857.—John Gould, Esq., F.R.S., V.P., in the Chair.

OBSERVATIONS ON THE GENUS *FURCELLA*, OKEN, A CONCHIFER WITHOUT CONCHA OR NORMAL VALVES, AND ON THE GENERA *TEREDO* AND *CHÆNA*. BY JOHN EDWARD GRAY, PH.D., F.R.S., V.P.Z.S. ETC.

The shelly tube of this animal has been described under several names. Linnæus considered it as a *Serpula*; Pallas, Home, and more recently Messrs. Adams have regarded it as a *Teredo*. Oken (1815) considered it a genus under the name of *Furcella*, to which the following names have been given:—*Septaria*, Lamk., *Clossonaria*, Férussac, *Clausaria*, Menke, *Kuphus*, Gray, altered to *Kyphus* by Agassiz.

There is no doubt that it is allied to *Teredo*, and it has been separated from that genus by the older conchologists because the apex of the tube is solid and furnished with two separate tubular apertures, evidently for the siphons of the animal, which in some specimens are said to be produced beyond the end of the larger tube into two slender, elongated, cylindrical tubules, as figured by Rumphius; hence the name given to it by Oken: but I have never seen a specimen which exhibited this character.

The habit of the animal at once separates it from *Teredo*, which always lives in wood, while the *Furcella* lives sunk perpendicularly in the sandy mud of the tropical seas.

The external appearance of the shelly tube agrees with this habitat; for instead of being nearly cylindrical and more or less twisted according to the hardness or knots in the wood, it is club-shaped and closed at the larger end with a convex plate like the tube of *Chæna mumia*, which lives in the sand in a similar manner; but the tube of the *Furcella* is much larger, and generally rather distorted and irregular on the surface, divided into sections by more or less distinct constriction of its diameter or by the slight alteration in the direction of the tube, which on examination are evidently produced by the periodical stoppages in the growth of the animal, which at each period of suspended activity evidently closes up the end of the tube; the animal absorbs this terminal plate when it again returns to activity, and requires a larger tube for its increasing dimensions. In the specimen before me, the space between these interruptions in growth increased in length as the animal grew and enlarged in diameter.

The tube is thickened above as the animal leaves it, and is much thinner near the lower or closed extremity. The whole length of the tube is solid, without any perforations, except quite near the closed end, where it is pierced with a number of unequal-sized rather irregularly disposed small perforations, generally scattered; but sometimes there is a short series of five or six placed in a longitudinal

line, and these holes appear to be filled up by an internal coat when the animal absorbs the end and lengthens its tube.

The larger end of the tube is entirely closed over by two convex, arched, shelly laminae, continuous from each side of the tube, and meeting and slightly overlapping one another in the central line, which is opposite to the septum between the two tubes in the smaller end of the shell-sheath of the animal.

These small holes are evidently intended for admission of water to the animal, and the shelly septa at the bottom to protect it from the sand in which it lives. The holes are similar to the tubes of *Penicillus aquarius* and *Clavagella*, which live in sand, and *Bryopa melitensis*, which lives in porous stone.

I have not observed any similar perforations in the tube of the *Teredo*; and indeed they would not be of any use, as the tube is deeply sunk in the substance of the wood in which the animal burrows.

The *Teredines* appear during their period of rest to close the end of their tube, with a shelly septum formed of a single convex plate. There are two fragments of tubes in the British Museum which appear to belong to that genus, from their external appearance and prismatic structure, which are so closed at the bases: in one specimen the closing septum is uniformly convex, and like the tube-structure; in the other the septum is divided into two equal portions by a transverse groove or depression; but on neither of the specimens can I observe any traces of the septum being formed of two plates overlapping in the middle like the septum of *Furcella*.

The calcareous tubes of *Septaria*, mentioned by Home, Phil. Trans. 1806, p. 276, Dillwyn, R. Shells, ii. p. 1088, and in the 'Mag. Nat. Hist.' 1838, p. 408, as having a succession of *septa*, proved on re-examination, Mr. Woodward informs me, to be the shells of *Vermeti*.

The character of the family *Teredinidae* is, that the animal always lives in a tube; that it is provided with two appendages, one on each side of the siphons, called *palettes*, which differ considerably in structure in the different genera; and that the front of the body of the animal over the mouth is encased in two very small valves like those of a *Pholas* in structure and form, but in a more rudimentary state of development; the tubular case of the animal apparently taking the place, or being in fact a great development of the dorsal additional shelly plate usually found more or less developed in the different genera of *Pholadidae*.

Now it is clear that by Pallas, Home, and Messrs. Adams referring this shelly tube to the genus *Teredo*, they believed that it had all these peculiarities.

I was, therefore, very much pleased when a perfect specimen of this interesting genus came into my hands yesterday, to think that I might have the opportunity of bringing before the Society the palette and valves of this genus, which until now have been desiderata, especially as the sound made by shaking the tube showed that some shelly pieces were contained within it.

But on making a small aperture on the side near the base of the tube to examine the structure of the valves, I was astonished to find

that, though the genus had two of the characteristics of the family of *Teredinidæ*, it wanted one of them; the plates within were only the *palettes*, which are simple and somewhat like those of the more common *Teredo norvegica*; there were no proper shelly valves, not even any rudiments of them; and that the animal forms a genus in that family which has the abnormality of wanting the true shelly valves so universal in the Conchifera.

This absence may be explained by the fact that the animal does not require them to protect its head and nervous centre, living as it does in a soft sandy mud; while they are required in *Teredo* and the allied genera which have to bore their way into hard wood or stone to form the hole that is to be lined with the shelly tube.

Sir Everard Home in his 'Lectures,' when describing the animal of *Teredo navalis* (ii. t. 81), refers this shell-tube to the genus *Teredo*, and gives a very good figure of the *palettes*, or as he called them, "operculum," of it (tab. 81. f. 4 & 5); but he was not aware of this absence of the shelly valve, for he figures what he considers the "boring shell of the same *Teredo*" (fig. 6): but what he has here taken for the "boring shell," or true valves of the animal, is evidently a fragment of the plates which close the end of the tube.

It may be supposed that, perhaps, the valves might be very small and have fallen out; but I think this is impossible, as the holes at the narrow part of the tube are very small, and filled up with fragments of shell and sand. The tube otherwise is quite closed, and the animal had evidently been eaten out by dipterous larvæ, as there were abundance of their pupa-skins in the cavity.

I may observe, that in the genus *Penicillus*, Brug. (*Aspergillum*, Lamk.), which also lives in sand, and has a fringe of tubes round the convex base of the tube, the shelly valves are immersed in the substance of the tube; but *Furcella* is the only genus of Conchifera I am acquainted with that is entirely destitute of true valves, like the Tunicata.

The possession of the two separate apertures at the upper extremity of the tube does not appear to be exclusively confined to this genus; for in the British Museum we have three specimens of tubes which belong to *Teredo norvegicus*, or to a species allied to it, procured at the same time, and probably from the same place, but without any habitat.

They all have a succession of transverse laminæ at the upper extremity of the tube. In No. 1 these plates are pierced with an oblong central hole for the passage of the siphons, as is the case with most specimens of *T. norvegicus*. No. 2 is similar, but there is a projection on one side of the perforation of the plates dividing the aperture on that side into two parts; and in No. 3, instead of having a single oblong aperture as in the other specimens, there are two sub-circular ones separated by a central transverse septum as in *Furcella*, as if the imperfect rib in No. 2 was transformed into a shelly plate extending right across the aperture, and which must be deposited between the two siphons of the animal.

In general the tubes of *Teredo* are entirely imbedded in the wood, but sometimes, as in a specimen we have in the Museum from the mouth of the River Nunn, the apices of the tubes of the shell project as if they were produced by the animal as the shelly tube enlarged beneath; but I believe this arises from, and at least is partially, if not entirely, caused by the surface of the wood disintegrating and leaving the apices of the tubes exposed. In the same collection are a series of the tubes of a species of *Teredo*, from Van Diemen's Land, which are more or less covered with *Serpulæ* and *Vermeti*; I suspect these must be specimens which have been partially or entirely exposed by the rotting of the wood in which they were enclosed.

These specimens from Van Diemen's Land, so covered with *Serpulæ*, also exhibit another peculiarity: in one case two tubes are parallel to each other, and firmly united by the outer surface of one of their sides into one body, which induced me to believe that they might be *Serpulæ*, until I examined the structure of the shell and observed the simple contracted apex of the upper extremity.

In those genera of *Teredinidæ* which have a number of half-septa across the upper or smaller aperture of the tube, forming a kind of incompletely valvular structure on the sides of the siphons, or as in *Furcella*, where the space between the siphons is entirely closed up, leaving only a tube for the passage of the siphon on each side of the upper cavity, these septa and the solid calcareous matter forming the tubes must be deposited by the surface of the siphons themselves, as the canal of the univalve *Zoophagous Gasteropods* is deposited by the siphon of the mantle of these animals.

And as the *palettes* or *opercula*, as they have been erroneously called, of this family, are fixed on each side between the base of the two more or less elongated siphons, in all those genera which have a siphonal septum like *Furcella*, or lamina like *Teredo* at the apical end of the tube, these *palettes* are always enclosed in the tube, and cannot be exerted as they are sometimes represented.

The character of this genus must be thus amended:—

FURCELLA.

Animal without any true shelly valves; siphonal palettes distinct, large; apex dilated, transverse, spathulate, with a central midrib and an elongated slender cylindrical base.

Tube clavate, irregular, sometimes bent; apex with two tubular siphonal apertures separated by a broad, hard, shelly, longitudinal dissepiment; base pierced with small scattered perforations; end enclosed by two overlapping convex septa, arising from the sides and completely closing the ends.

These arched terminal plates appear to be absorbed before each period of activity, and the end is again closed with similar plates at each period of rest, after a sufficient elongation and enlargement of the tube for the protection of the enlarged animal. Living sunk in sandy mud on the shore in tropical climates.

The perfect specimens of *Chæna mumia* are covered with a thin

external coat (sometimes covered externally with particles of sand and Foraminifera, imbedded in its surface), which is only partially attached to the general substance of the tube by thin lines, concentric with the lines of growth, leaving the rest of the coat separated from the surface of the tube by a distinct hollow space.

In some specimens, as those in the British Museum from Mozambique, the attached part of the outer coat is in nearly concentric ring-like transverse lines round the tube, leaving a more or less complete hollow ring between each attached portion. In others, as that from the Philippines in the same collection, the attached portion of the outer coat is oblique and interlaced so as to leave only narrow, elongated, oblong, hollow tessellated interspaces on the surface, which are acute at each end.

I am not certain that these characters are permanent; but if so, one may be called *Chæna annulosa*, and the other *Chæna tessellata*. In the latter the outer coat is simple and smooth externally. In the specimen from the Philippines the tube is covered with a close coat of sand and a few Foraminifera, which are deeply imbedded in the substance of the thin outer coat, giving it a very peculiar appearance.

The shell of the newly hatched animal, which remains as a nucleus on the coat of the older shells, is smooth, uniformly convex, without any appearance of the anterior truncation or of the radiating ridges, which is so peculiar in the adult shells; and it seems also to have a straight lower edge without any appearance of the large ventral gape of the genus.

The cavity of the tube is contracted by an internal ring just above the hinder end of the shells, leaving an oblong central aperture of about half the diameter of the tube. This contraction is formed of several shelly plates with interspaces between them.

The animal has the power of repairing a fracture of the tube. There is a specimen in the Museum which had evidently been completely broken across about half its length, and the direction of the tube altered; the two portions have been united by an internal irregular white shelly coat.

December 8, 1857.—Dr. Gray, F.R.S., V.P., in the Chair.

ON A NEW SPECIES OF CASSOWARY.

BY JOHN GOULD, F.R.S., V.P., ETC.

I think it has been shown, that not only many species, but whole genera, and even great families of birds, formerly existed on the surface of the globe, of which no living representatives now remain, but whose previous existence is made manifest to us by their foot-prints, the remains of their osseous structure, or portions of their egg-shells; some of these lived in periods of the most remote antiquity, while others are doubtless coeval with Man: of these latter probably not a few owe their extirpation to his wanton disregard for their perpetuity, such as the Dodo, the Dinornis, the Norfolk Island Parrot,

&c. ; their extinction being aided by their large size rendering them conspicuous objects, and by the circumstance of their being denizens of very limited areas, of small groups of islands, such as Mauritius, Madagascar, Norfolk and Philip Islands, &c. The great group of extinct struthious birds with which Owen and the younger Mantell have made us so well acquainted, is one which all ornithologists must regard with especial interest, and this interest will I doubt not be greatly enhanced when I state that I have undoubted evidence that a species pertaining to it, and hitherto unknown to us, is still living on our globe. These few prefatory remarks are given before introducing to the notice of the Society a most interesting communication which I have just received from George Bennett, Esq., of Sydney, respecting a new species of Cassowary lately discovered in the Island of New Britain, an example of which, apparently fully adult, is either now living at Sydney, or *en route* to Europe : that it may soon arrive, or if it should unfortunately die, its skin may be duly preserved and sent to us, is my anxious hope. I am sure I need not expatiate upon the warm interest which our corresponding member, Dr. Bennett, has always manifested for the welfare of this Society, nor upon the value of the varied contributions he has made to natural science ; it cannot fail to afford pleasure to us all to find, as will be seen, that this interest on his part is still undiminished. I think, therefore, that it will only be a just tribute of respect if we name the bird, of whose existence he has been the first to make us acquainted, CASUARIUS BENNETTI.

Of this particular section of the *Struthionidæ*, then, there are the *C. galeatus*, a native of New Guinea, the *C. australis* inhabiting the Cape York district of Australia, and the *C. Bennetti*, whose domicile is the Island of New Britain.

The following are the details respecting this new species with which Mr. Bennett has favoured me :—

“ Sydney, Sept. 10, 1857.

“ MY DEAR GOULD,

“ I send you an account of a new species of Cassowary recently brought to Sydney by Captain Devlin in the cutter ‘Oberon ;’ it was procured from the natives of New Britain, an island in the South Pacific Ocean near to New Guinea, where it is known by the name of ‘Mooruk.’ The height of the bird is 3 feet to the top of the back, and 5 feet when standing erect ; its colour is rufous mixed with black on the back and hinder portions of the body, and raven-black about the neck and breast ; the loose wavy skin of the neck is beautifully coloured with iridescent tints of bluish-purple, pink, and an occasional shade of green, quite different from the red and purple caruncles of the *Casuarinus galeatus* ; the feet and legs, which are very large and strong, are of a pale ash-colour, and exhibit a remarkable peculiarity in the extreme length of the claw of the inner toe on each foot, it being nearly three times the length which it obtains in the claws of the other toes ; this bird also differs from the *C. galeatus* in having a horny plate instead of a helmet-like protuberance on the

top of the head, which callous plate has the character of and resembles mother of pearl darkened with black-lead; the form of the bill differs considerably from that of the Emu (*Dromaius Novæ-Hollandiæ*), being narrower, longer, and more curved, and in having a black and leathery cere at the base, and behind the plate of the head a small tuft of black hair-like feathers, which are continued in greater or lesser abundance over most parts of the neck.

“The bird is very tame and familiar, and when in a good humour frequently dances about its place of confinement. It is fed upon boiled potatoes and meat occasionally. The egg is about the same size as that of the Emu, and is of a dirty pale yellowish-green colour; I give this description from an egg obtained from the natives by Capt. Devlin.

“The bird appears to me to approximate more nearly to the Emu than to the Cassowary, and to form the link between those species. In its bearing and style of walking it resembles the former, throwing the head forward, and only becoming perfectly erect when running; it also very much resembles the Apteryx in the carriage of its body, in the style of its motion, and in its attitudes. It has been exhibited by Messrs. Wilcox and Turner in Hunter Street, Sydney.

“The accurate drawing which accompanies this letter was taken from life by Mr. G. F. Angas, whose correct delineation of objects of natural history is so well known; it conveys an excellent idea of the bird.

“Before closing my letter I have again examined the bird, and have to add, that its bill presents a good deal of the character of that of a Rail, and that it utters a peculiar whistling chirping sound; and I am informed that it also emits a loud one resembling the word ‘Muruk,’ whence no doubt is derived its native name. The existence of the species in New Britain or some of the neighbouring islands has been suspected for the last three years, and some time since a young specimen was procured, but unfortunately lost overboard during the voyage.

“Ever, my dear Gould,

“Your sincere friend,

“GEORGE BENNETT.”

As the bird has not yet reached this country, the fact of its being a new species must for the present rest upon Mr. Bennett’s authority.

The account published by Mr. Wall of the discovery of the bird he has named *Casuaris australis* being but little known in this country, I have thought it might not be uninteresting to the meeting if I give a copy of it here as it appeared in the ‘Illustrated Sydney Herald’ of June 3, 1854:—

“The first specimen of this bird was procured by Mr. Thomas Wall, naturalist to the late expedition commanded by Mr. Kennedy. This was shot near Cape York, in one of those almost inaccessible gullies which abound in that part of the Australian continent. The Cassowary, when erect, stands about 5 feet high. The head is without feathers, but covered with a blue skin, and, like the Emu, is

almost without wings, having mere rudiments. The body is thickly covered with dark brown wiry feathers. On the head is a large protuberance or helmet of a bright red colour, and to the neck are attached, like bells, six or eight round fleshy balls of bright blue and scarlet, which give the bird a very beautiful appearance. The first, and indeed the only, specimen of the Australian Cassowary was unfortunately left at Weymouth Bay, and has not been recovered. Mr. Wall being most anxious for its preservation had secured it in a canvas bag and carried it with him to the spot where, unfortunately for himself and for science, it was lost. In the ravine where the bird was killed, as well as other deep and stony valleys of that neighbourhood, they were seen running in companies of seven or eight. On that part of the north-eastern coast, therefore, they are probably plentiful, and will be met with in all the deep gullies at the base of high hills. The flesh of this bird was eaten, and was found to be delicious; a single leg afforded more substantial food than ten or twelve hungry men could dispose of at one meal. The Cassowary possesses great strength in its legs, and makes use of this strength in the same manner as the Emu. Their whole build is, however, more strong and heavy than that of the latter bird. They are very wary, but their presence may be easily detected by their utterance of a peculiarly loud note, which is taken up and echoed along the gullies; and it would be easy to kill them with a rifle."

The above account was furnished to the 'Illustrated Sydney Herald' by Mr. Wall's brother, Mr. William Sheridan Wall, Curator of the Australian Museum.

No skin of this species having yet been sent home, I am unable to say if the bird be really a new species, or identical with the New Guinea bird, *Casuarinus galeatus*. I trust, however, that the time is not far distant when some expedition more fortunate than the one to which Mr. Wall was attached may procure examples, and by making us better acquainted with the bird, enable us to decide this point.

DESCRIPTION OF ELEVEN NEW SPECIES OF BIRDS FROM
TROPICAL AMERICA. BY PHILIP LUTLEY SCLATER.

1. CAMPYLORHYNCHUS PARDUS.

Supra albo nigroque tessellatus, alis nigris albo regulariter transvittatis: cauda nigra, rectricibus maculis magnis albis in utroque pogonio crebro transfasciatis: nucha brunnea: pileo griseo, nigro punctato: superciliis et capitis lateribus albis, striga postoculari et rictali utrinque nigricantibus: subtus albus, gutture concolore, pectore, ventris lateribus et crisso maculis parvis rotundis notatis: tectricibus subalaribus albis; rostro brevior, debiliore, pallido, culmine corneo: pedibus nigris.

Long. tota 6·8, alæ 3·0, caudæ 3·0, rostri a rictu ·9.

Hab. In Nova Grenâda in vicin. urbis S. Marthæ.

Mus. Brit.

This bird most nearly resembles *Camp. nuchalis* of Cabanis, or at

least a member of this difficult group from Trinidad, which in my collection bears that name. In their upper surfaces these two species are not unlike, although the head is paler, the nape more brown, and both the inner and outer webs of the tail-feathers are banded in the present bird, which is not the case in the former. But below, *C. pardus* is readily recognized by its pure white colour, varied sparingly with round black spots on the breast, sides of the belly and vent. My type-specimen was received from S. Martha by Mr. Lawrence of New York, who kindly entrusted it to me for examination. I have called it "*pardus*" because it is the bird so named (but not described) by Prince Bonaparte in his Ornithological Notes upon Delattre's collections (page 43). The specimen there alluded to, which was received by MM. Verreaux of Paris from S. Martha, is now in the British Museum. It is apparently a younger bird than my type, but easily recognizable as of the same species.

2. CAMPYLORHYNCHUS STRIATICOLLIS.

Nigricanti-griseus; uropygium versus magis rufescens, pennis obsolete nigro marmoratis: alis caudaque nigricantibus, marginibus externis nigro et rufo anguste variegatis: subtus albo-griseus, gula albicante; cervice et pectore nigricante longitudinaliter striatis, ventre medio maculis rotundis obsolete notato: ventre imo crissoque rufescentibus, nigro obsolete transvittatis: rostri pallide cornei culmine nigro; pedibus nigris.

Long. tota 6·5, alæ 3·1, caudæ 2·7, rostri a rictu 1·0.

Hab. In Nova Grenada.

This is a typical *Campylorhynchus*, of which I have met with only one example, now in my own collection, selected from amongst a large number of Bogota birds. It does not seem very like any of the fourteen species of the genus which I have enumerated in the 'Proceedings of the Academy of Nat. Sciences of Philadelphia' (1846, p. 264). The upper surface is nearly uniform, being only obsoletely marbled, an appearance caused by the centres of the feathers being darker. The fore-neck is longitudinally striated and not spotted, as is more usual among these birds; but there are round spots, not however very strongly marked, on the belly.

3. ANABAZENOPS GUTTULATUS.

Olivaceus, superciliis ab oculo in nucham productis rufis: pilei pennis medialiter olivaceis, nigricante marginatis; interscapulii pennis medialiter pallide ochraceis, nigricanti-ochraceo utrinque limbatis, et quasi illo colore guttatis: alis intus nigricantibus, extus brunnescentibus: cauda unicolore ferruginea; subtus gula albida, pectoris et ventris superioris plumis ochracescenti-albidis fulvo tinctis, marginibus fusco-olivascens circumdatis: lateribus et ventre imo terricolori-brunneis; crisso rufo: rostri cornei apice et basi flavidis; pedibus flavido-fuscis.

Long. tota 7·0, alæ 3·3, caudæ 3·0.

Hab. In Venezuela, prope urbem Caracas (*Levrault*).

Mus. Paris.

4. SYNALLAXIS MULTO-STRIATA.

Supra terricolori-brunnea, fronte et pileo antico rufis nigro variis: dorsi totius pennarum scapis flavo-albidis, strias longas formantibus: cauda, e rectricibus duodecim, nigricante, brunneo marginata, subtus pallide brunnea: corpore subtus terricolori-brunneo, albo confertim vario, plumis medialiter albis, nigrescenti-brunneo irregulariter circumcinctis; gula pure rufa: rostro nigro, pedibus fusco-nigris.

Long. tota 6·5, alæ 2·4, caudæ 2·8.

Hab. In Nova Grenada.

Mus. Paris.

A specimen of this apparently new *Synallaxis* is in the Gallery of the Jardin des Plantes at Paris. It is marked "Bogota, Rieffer, 1843." It does not very closely resemble any species with which I am acquainted, and is rather remarkable as being striated both above and below.

5. TURDUS FULVIVENTRIS, Verreaux, MS.

Nigricanti-cinereus, alis caudaque obscurioribus; capite toto cum gutture nigris; cervice antica fusciscenti-cinerea: abdomine toto cum tectricibus subalaribus saturate cinnamomeo-rufis: crisso fusco: rostro flavo, pedibus pallide brunneis.

Long. tota 10·5, alæ 4·8, caudæ 4·0.

Hab. In Nova Grenada (Bogota).

Mus. Acad. Philadelph. et P. L. S.

I have received a single example of this fine Thrush from MM. Verreaux, with the MS. name attached, which I have adopted. It is quite distinct from every other bird of the group hitherto described, but may be placed near *Turdus migratorius* of the U. S.

6. TURDUS IGNOBILIS.

Cinerascenti-fuscus unicolor, subtus dilutior, gula albicante, striis paucis cinereis: abdomine medio cum crisso albis, lateribus cinerascentibus: tectricibus subalaribus fusco-cinereis, rufo vix tinctis: rostro corneo, pedibus fusco-nigris.

Long. tota 9·0, alæ 4·5, caudæ 3·9.

Hab. In Nova Grenada.

Mus. Acad. Philadelph. et P. L. S.

I have had examples of this Thrush some time in my possession, and have indicated it without naming it in my first list of birds from Bogota (P. Z. S. 1855, p. 145, sp. 168). Having lately obtained other specimens, I have no hesitation in describing it as apparently unnamed, unless indeed it chance to be Prince Bonaparte's *Turdus luridus* (Notes Orn. p. 28), which however it is impossible to determine from so brief a notice. In its uniform style of colouring it resembles *Turdus fumigatus* of Brazil and *T. Grayi* of Mexico, but may be immediately distinguished by the colour of the under wing-coverts, which are cinereous like the breast, with a faint tinge only of rufous. There are two examples of this same bird in the collec-

tion of the Academy of Natural Sciences of Philadelphia, also labelled "Bogota."

7. CINCLUS LEUCONOTUS.

"*Cinclus leucocephalus*, Tsch." ; Lafr. Rev. Zool. 1847, p. 68.

Niger: pileo cum nucha, dorso medio et corpore subtus ad imum ventrem albis: crisso et hypochondriis nigris: pileo nigro striolato: rostro nigro, pedibus corneis.

Long. tota 5·5, alæ 3·8, caudæ 1·6, rostri a fronte ·6.

♀ (?). *Mari similis sed minor, rostro brevior.*

Long. tota 5·0, alæ 3·1, caudæ 1·5, rostri a fronte ·4.

Hab. In Nova Grenada et rep. Equatoriana.

Mus. Paris., Gul. Jardine Baronetti, et P. L. S.

This species is not the *Cinclus leucocephalus* of Tschudi, as I ascertained this summer by taking my specimens to Neufchatel and there comparing them with the type. Tschudi's bird is much larger and has the white below confined to the breast, and no white back. It is in short quite a different bird. The most peculiar thing however about my two specimens is, that one is larger than the other, and has the bill strikingly longer. After some hesitation I have attributed this to sex, though I am not aware of a similar difference occurring in the bills of other *Cincli*. I may remark, however, that though this bird is seemingly much like *Cinclus* in form, I cannot help thinking that, when we know more about it, we may find occasion to refer it to a different genus. My examples were picked out of a large number of ordinary Bogota skins, of which they have the usual unmistakable appearance. The bird described by Lafresnaye was brought from Pasto by Delattre, and a specimen in the Paris Museum—marked *Cinclus leucocephalus*—is said to be from the vicinity of Quito. Sir William Jardine possesses examples from the same locality.

8. TYRANNUS ATRIFRONS.

T. supra pallide cineraceo-brunneus; vitta frontali inter oculos nigra, crista pilei medii celata aurea: alis nigricanti-brunneis, extus rufo late marginatis: tectricibus caudæ superioribus cum cauda tota rufis, rectricum (precipue mediarum) parte media nigricante: subtus flavus; gula albicante, pectore rufo paulum mixto, tectricibus alarum inferioribus pallide flavis, remigum pogoniis internis subtus ochraceis: rostro et pedibus nigris.

Long. tota 8·2, alæ 4·6, caudæ 3·75.

Hab. In littoribus reipub. Equatorianæ.

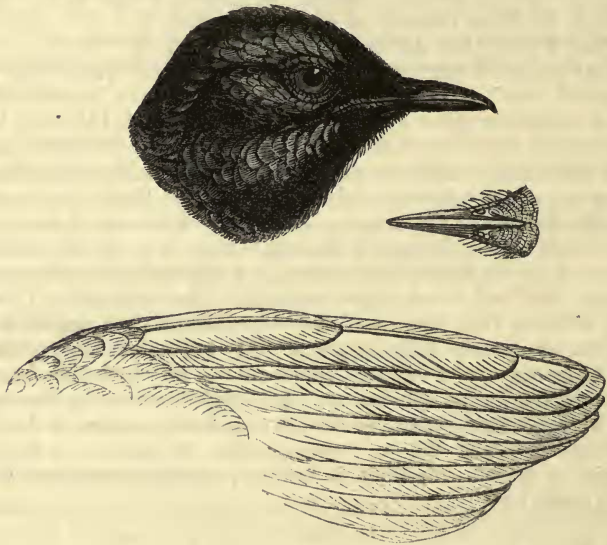
Mus. Brit. et T. C. Eyton.

Mr. Eyton's collection contains the type-specimen of this very well-marked species of Tyrant, which I believe to have been hitherto overlooked. It is labelled "Guyaquil," and that is no doubt its right locality, for two examples of the same bird in the British Mu-

seum were obtained on the island of Puna in the gulf of Guyaquil by Mr. Barclay.

MELANOPTILA, gen. nov.

Melanoptila, genus novum e familia TURDIDARUM. Rostrum rectum, modicæ longitudinis, fere ut in genere Turdo, sed tenuius et vibrissis rictalibus nullis: alæ breves, ad finem subcaudalium attingentes, remige prima brevi, secunda secundarias co-æquante, tertia longiore, sed a quarta, quinta, et sexta, æqualibus et longissimis, superata: cauda longa, apice rotundata: pedes antice scutellatæ prout in genere Turdo.



9. M. GLABRIROSTRIS.

M. nigra unicolor, cæruleo-nitens: alis caudaque æneo magis splendidibus: rostro et pedibus nigris.

Long. tota 7·8, alæ 3·5, caudæ 3·3, tarsi 1·05.

Hab. In rep. Honduras, prope urbem Omoa.

I first observed specimens of this curious bird in the Derby Museum at Liverpool. They were procured in Honduras by Delattre, and an excellent example from the same source is in the British Museum. A single specimen in my own collection was obtained, with other birds, by Mr. Joseph Leyland in the vicinity of Omoa at the extremity of the Bay of Honduras. I know of no other American form which much resembles it in plumage or in structure, and am rather puzzled as to its proper arrangement in the Natural System. It must however, I think, come within the limits of the

family *Turdidæ*, and for the present I am rather inclined to place it along with the Mock-birds (*Miminæ*), with the general structure of some of which it seems most nearly to accord, except in the absolute want of any signs of rictal bristles, whence I have called it *glabri-rostris*.

Mr. Leyland informs me, with regard to this bird at Omoa, that he believes it is rare there, as he only saw one other individual during his stay. It frequents the low thick bushes.

Further information concerning the difference of the sexes, habits and internal structure of this interesting bird are requisite, before its true position can be satisfactorily established.

10. LIPAUGUS RUFESCENS.

Rufescenti-brunneus, subtus clarior, capite et pectore subtilissime nigro, vittas obsoletas formante, transfasciatis: pennarum maculis apicalibus rotundis in pectore et ventre medio et in crisso sparsis, nigris: remigibus nigricantibus intus et extus rufo marginatis: alarum tectricibus superioribus rufis nigro variegatis, inferioribus rufis, fascia axillari crocea: cauda unicolore, rufescenti-brunnea: gula et crisso pure rufis: rostro nigricante, pedibus fuscis.

Long. tota 5·7, alæ 4·4, caudæ 3·3.

Hab. In rep. Guatimalensi prope urbem Coban (*Delattre*).

Mus. Britannico et Derbiano.

I examined an example of this bird with much care during an inspection of some of the riches of the Derby Museum at Liverpool, two years ago, and attached to it the MS. name which I now publish. Through the kindness of Mr. Thomas Moore I have lately had the opportunity of studying it a second time. Mr. G. R. Gray has obligingly pointed out to me a stuffed specimen in the British Museum, which is evidently the adult of this species, that in the Derby Museum being in an immature state; and I have therefore modified my original description, so as to render it applicable to the more perfect bird. In the younger stage the marking on the wings is not so decided, and the characteristic black spots on the breast, belly and crissum, and the axillary tufts, are absent. The specimen in the British Museum was procured from MM. Verreaux, and is labeled with the MS. name "*Lathriosoma typicum*, Bp." It is not however necessary to create a new generic name for this bird, as it certainly cannot be separated from *Lipaugus hypopyrrhus* (Vieill.), for which the term *Aulea** (taken from Dr. Schiff's MS.) has been already published by Prince Bonaparte. It forms, in fact, an excellent second species of this division, which seems to serve as a connecting link between the genera *Lipaugus* and *Heteropelma*, and is perhaps worthy of generic rank.

11. TINAMUS CASTANEUS.

Saturate castaneus, capite et cervice undique cum gula nigri-

* Prince Bonaparte writes this word '*Aulea*,' but if, as I suppose is the case, it comes from ἀὐλός, *tibia*, the proper adjectival form would be *aulius*.

canti-cinereis, pileo nigricantiore, gula magis cinerascete : alarum pennis nigricantibus, tectricum et secundariorum marginibus externis dorso concoloribus : ventre imo cum cauda (tectricibus supra-caudalibus omnino abscondita) nigro et cervino flammulatis : rostri mandibula superiore nigricante, hujus autem tomis cum mandibula inferiore flavidis : pedibus carneis.

Long. tota 8·5, alæ 5·5, caudæ 1·3, rostri a rictu 1·1, tarsi 1·9.

Hab. In Nov. Grenada interiore (Bogota).

Mus. P. L. S.

I obtained a single specimen of this Tinamou out of a large collection of Bogota skins in the hands of a dealer. I have in vain attempted to find a name for it, and have looked through the examples of these birds in the great Museums of Leyden, Paris and Philadelphia without finding a similar one. In the British Museum, however, is a specimen possibly referable to the young stage of this species.

The present bird agrees in size and shape tolerably well with *T. parvirostris* and *T. tataupa*, but is quite different in colouring from any member of the group with which I am acquainted.

ROYAL SOCIETY.

January 14, 1858.—The Lord Wrottesley, President, in the Chair.

“On the Electrical Nature of the Power possessed by the *Actiniæ* of our Shores,” By Robert M'Donnell, M.D., M.R.I.A.

After referring to the well-known phænomena manifested by electrical fishes, and to alleged instances of numbing effects, but of doubtful electrical nature, produced on the naked hand by the contact of certain marine Invertebrata, the author describes his own observations and experiments with the *Actinia* as follows :—

Suppose that into a vessel containing some *Actiniæ* well expanded, and apparently on the look-out for food, some of the tadpoles of the common frog be introduced, these little creatures do not, like many freshwater fishes of about the same dimensions, immediately die; on the contrary, the salt water seems to stimulate their activity, they become very lively and swim about with vivacity. One of them may not unfrequently be observed to make its way among the tentacles of an *Actinia* and get off again quite uninjured; it may even for a time nestle among the tentacles with as much impunity as if it were only in contact with a piece of sea-weed; but should the tadpole have the misfortune to fall in with a more voracious *Actinia*, the reception it meets with is very different. Sometimes, when by an incautious lash of its tail it touches even a single tentacle, it may at once be laid hold of, and in the violent efforts which it forthwith makes to break loose, often merely brings itself within the reach of other tentacles, by which it is seized and overpowered. Occasionally, however, after having been thus seized, the tadpole by its superior activity succeeds in effecting its escape, and when it does so, it seems for a time singularly excited; it twists and writhes and wriggles through the